

Attachment 2

Drawings

DTFAEN-11-R-00021

THE CONSTRUCTION AND THE INSTALLATION OF TWO ANTENNA TOWERS AND CABLES

AT

THE REMOTE COMMUNICATIONS AIR GROUND (RCAG) TYNDALL AFB

TYNDALL, FLORIDA



DRAWING LIST

DRAWING NO.	REV.	DATE	DESCRIPTION
PAM-D-103196-C001		06/08/2011	COVER SHEET
PAM-D-103196-C002		06/08/2011	INDEX SHEET
PAM-D-103196-C001		06/08/2011	ADD ANTENNA TOWERS PLOT LAYOUT
PAM-D-103196-A001		06/08/2011	RCAG FLOOR PLAN AND CABLE ENTRY
PAM-D-103196-S001		06/08/2011	RCAG NEW ANTENNA TOWER FOUNDATION DETAILS
PAM-D-103196-E001		06/08/2011	RCAG NEW ANTENNA TOWERS LIGHTNING PROTECTION DETAILS
PAM-D-103196-E002		06/08/2011	RCAG NEW ANTENNA TOWERS LIGHTNING DETAILS

REFERENCE LIST

DRAWING NO.	REV.	DATE	DESCRIPTION
SO-D-10275-101	0	09/20/1999	LEASE DRAWING

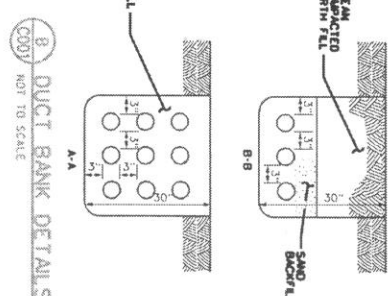
ABBREVIATIONS

SYMBOLS LEGEND

DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION AIRPORT SECURITY SERVICE AREA ARSR RCAG INDEX SHEET	
PROJECT NO. PAM-D-103196-C002 PROJECT NAME: RCAG NEW ANTENNA TOWERS PROJECT LOCATION: 10000 S. 100th Ave., Kent, WA 98032 PROJECT OWNER: ARSR PROJECT DESIGNER: [Blank] PROJECT DATE: 06/08/2011 PROJECT STATUS: [Blank]	DRAWING NO. PAM-D-103196-C002 DRAWING NAME: INDEX SHEET DRAWING DATE: 06/08/2011 DRAWING STATUS: [Blank]

8 7 6 5 4 3 2

ANTENNA TOWERS LAYOUT



8 DUCT BANK DETAILS
C001 NOT TO SCALE

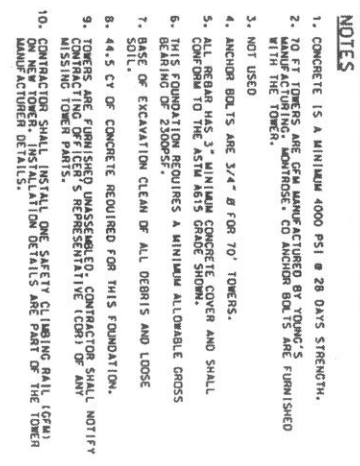
- # NOTES
1. CONTRACTOR SHALL INSTALL TWO GOVERNMENT FURNISHED MATERIALS, INCLUDING ANTIMIA LOCUSTS SAFETY RAIL, LIGHTNING PROTECTION, CABLE TIES AND FIBERGLASS JUNCTION BOX. CONTRACTOR MUST PERFORM ALL WORK TO PROTECT THE EXISTING CONDUITS AND CABLES FROM THE NEW CONCRETE. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING CONDUITS AND CABLES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING CONDUITS AND CABLES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING CONDUITS AND CABLES.
 2. CONTRACTOR SHALL INSTALL ONE 6" x 36" x 30" x 12" FIBERGLASS JUNCTION BOX APPROXIMATELY 10 FEET FROM THE NORTHEAST END OF THE BUILDING TO PROTECT THE 6" DIA. BOLD CONDUIT. THE PVC DUCTBANK HAS BEEN INSTALLED UNDER THE BOX AT THE SAME ELEVATION AS THE ODD ENTRANCE STOODS.
 3. CONTRACTOR MUST EXPECT TO HAND DIG FROM JUNCTION BOX ON THE BUILDING OUT APPROXIMATELY 8 FEET FOR THE INSTALLATION OF THE PVC DUCTBANK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF THE DUCTBANK ON THE DETAIL ON DRAWING -5001. THE CONTRACTOR IS EXPECTED TO HAND DIG UNTIL CLEAR OF THE BUILDING CONCRETE, WHICH SHOULD BE NOT EXPECTED TO ENCOUNTER ANY OTHER UNDERGROUND UTILITIES IN THE INSTALLATION OF THE ANTIMIA TOWERS OR CABLE DUCTBANKS.
 4. CONTRACTOR SHALL INSTALL 12 RUNS OF 7/8" HELIAX CABLE (GFI) PER TOWER. BETWEEN THE NEW FIBERGLASS JUNCTION BOX (GFI) INSTALLED ON ANTIMIA TOWER SET DRAINAGE POINTS -5001-4 -5002 FOR DETAILS.
 5. THE CONTRACTOR MUST REMOVE THE GROUND IN AND AROUND THE AREA OF THE CONDUIT AND BE SPOILED AFTER ALL UNDERGROUND WORK IS COMPLETED. THE CONTRACTOR WILL BE EXPECTED TO REPAIR AND REINSTATE ALL MATERIALS OVER THE DIRT STURBED CONSTRUCTION AREA.
 6. THE CONTRACTOR SHALL INSTALL A THREE BY THREE W/4" DIA. PVC DUCTBANK 25' SHOWN IN THE DETAIL. CONTRACTOR SHALL BACKFILL DUCTBANK WITH 2500 PSI CONCRETE. A 3" DIA. BLACK PVC WITH CLEAN AND GFI ABOVE CONDUITS. BACKFILL THE REMAINDER OF THE DUCTBANK FILL CLEAN FILL. CONTRACTING IN 6" LIFTS.
 7. THE CONTRACTOR SHALL CAP AND SEAL THE THREE PVC CONDUITS AND BACKFILL A MINIMUM OF 6" INCHES AROUND ENDS OF EACH CONDUIT.

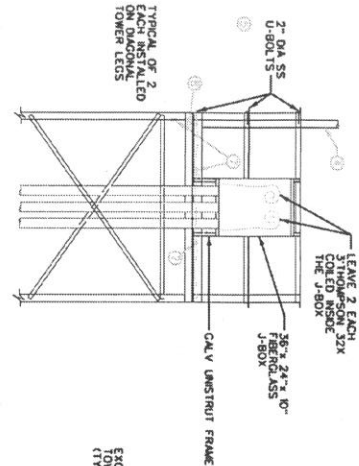
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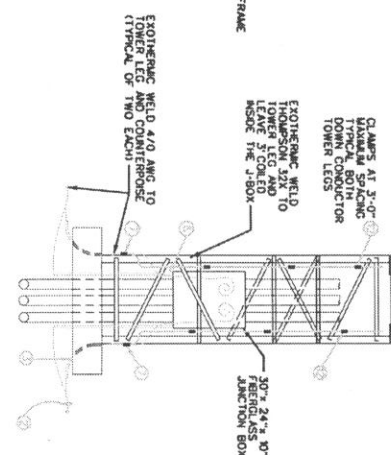
FLOOR PLAN AND CABLE ENTRY

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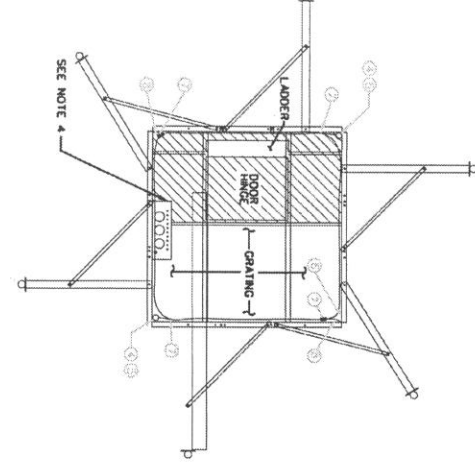
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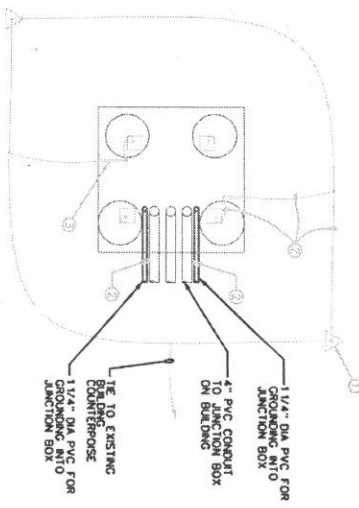
1 JUNCTION BOX ELEVATION
E001 NOT TO SCALE



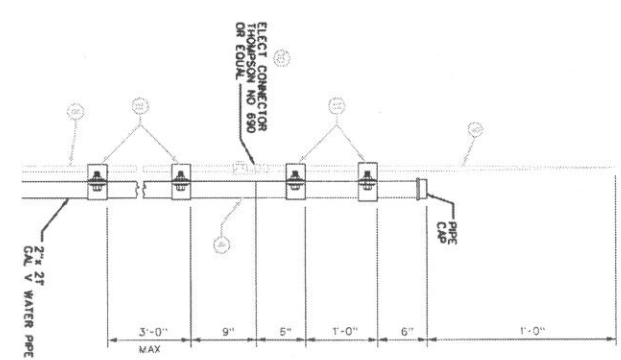
2 TOWER CONDUIT ELEVATION
E001 NOT TO SCALE



3 JUNCTION BOX SECTION
E001 NOT TO SCALE



4 TOWER CONDUIT SECTION
E001 NOT TO SCALE

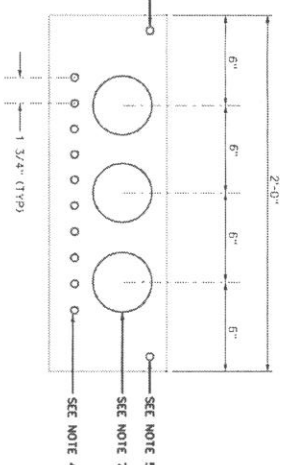


5 AIR TERMINAL ASSEMBLY
E001 NOT TO SCALE

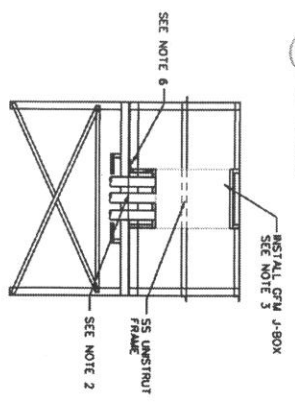
- NOTES**
1. SUPPORT THE CONDUCTOR AT A MINIMUM OF 2'-0" SPACING AROUND THE PERIMETER OF THE PLATFORM.
 2. INSTALLED DOWN CONDUCTOR WITH AN MINIMUM OF BENDS.
 3. ALL GROUNDING CONNECTIONS BELOW GRADE.
 4. ALL EXOTHERMIC WELD.
 5. INSTALLED JUNCTION BOX AT 90° FROM HATCH OPENING DIRECTION.
 6. CONTRACTOR MAY ELECT TO SALVAGE EXISTING 4/0 AROUND AND ATTACHED TO EXISTING ANTENNA TOWER. THE 4/0 SHALL BE PLACED IN A 1 1/4" PVC WHEN PASSING THROUGH THE NEW TOWER FOUNDATION.

- LEGEND**
1. GROUNDING CABLE, COPPER CLAD 3/4" DIA. X 30'
 2. 4/0 AWC BARE COPPER, 28 STRAND, WT 660 LBS/1000 FT
 3. CONDUIT, RIGID PLASTIC, 3/4"
 4. STANDARD STEEL, PIPE, GALV. 2" X 21 FEET LONG - WATER WARD
 5. U-BOLT, 3" WITH SELF LOCKING NUTS, STANDARD STEEL
 6. DOWN CONDUCTOR, 32 STRANDS, WT 215 LBS/1000, THOMPSON 32X OR E001
 7. PARALLEL CLAMP, THOMPSON 4240 DR E001
 8. SET SCREW CLAMP, THOMPSON 4201 DR E001
 9. AIR TENSION, 6/8" X 3, THOMPSON 4603 DR E001
 10. VERTICAL CONNECTOR, THOMPSON 4604 DR E001
 11. PIPE CLAMP, THOMPSON 4248 DR E001
 12. CABLE CLAMP, THOMPSON 442 DR E001, 6 3/4" MINIMUM SPACING

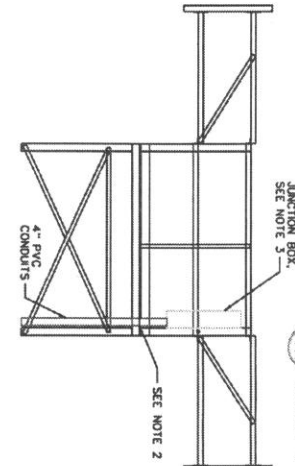
DAWALA CITY		NEW ANTENNA TOWERS LIGHTING PROTECTION DETAILS	
PROJECT NO. 100396-E001		RCAG	
DESIGNED BY: [Signature]		CHECKED BY: [Signature]	
DATE: 10/10/2010		SCALE: 1/2" = 1'-0"	
PROJECT NO. 100396-E001		PROJECT NO. 100396-E001	



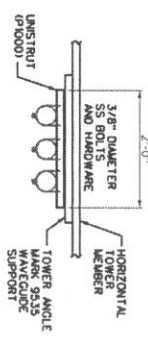
1 CONDUIT LAYOUT IN SLAB
E002 NOT TO SCALE



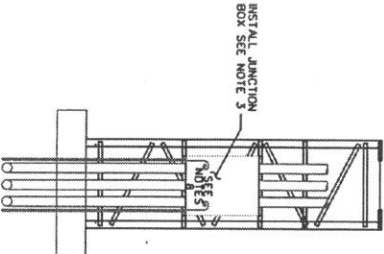
2 JUNCTION BOX ELEVATION
E002 NOT TO SCALE



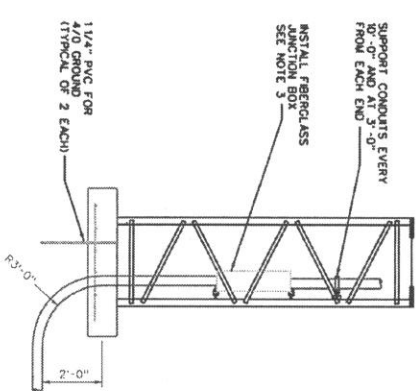
4 JUNCTION BOX SECTION
E002 NOT TO SCALE



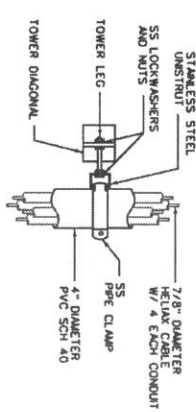
7
E002 CONDUIT SUPPORT PLAN
SCALE: 1" = 1'-0"



3 TOWER CONDUIT ELEVATION
E002 NOT TO SCALE



5 TOWER CONDUIT SECTION
E002 NOT TO SCALE



3 CONDUIT SUPPORT SECTION
E002 NOT TO SCALE

- # NOTES
1. THE 7/8" HELIX CABLE SHALL NOT BE BENT CLOSER THAN A 12" RADIUS.
 2. CUT SECTION OF DAMAGED STEEL BRACING AS REQUIRED TO ROUTE CONDUITS. UP TO JUNCTION BOX, CUT EDGES SHALL BE HOT GALVANIZED. FRAME CUT OPENING WITH 2" x 2" 1/4" GALVANIZED STEEL ANGLE.
 3. CONTRACTOR SHALL INSTALL 3/5" x 2 1/4" x 12" JUNCTION BOX ON TOP OF THE TOWER AND 3/5" x 2 1/4" x 12" JUNCTION BOX ON BOTTOM OF THE TOWER (GUY OR LEBERGLASS, NEUA AND ALPAC POWER UNDER USE). INSTALL STAINLESS STEEL UNIT IN PUL RESIDENT ENGINEER, 316/316L STEEL BOX. VERIFY STAINLESS STEEL UNIT IN PUL RESIDENT ENGINEER.
 4. CONTRACTOR SHALL INSTALL ONE EACH 1/2" DIA. STAINLESS STEEL STRAIN RELIEF CONNECTOR BOX. (1160 4053) FOR CABLE INSTALLED BY OTHERS. IN THE BOTTOM OF THE JUNCTION BOX.
 5. CONTRACTOR SHALL INSTALL 2 EACH 1/2" DIA STAIN RELIEF CONNECTOR (CGM) FOR THE THOMPSON 35X FROM THE TOWER BOX.
 6. ALL CUT EDGES, CORNERS DRILLED HOLES AND OTHER ABLATED AREAS SHALL BE HOT GALVANIZED.
 7. CONTRACTOR SHALL FINISH AND INSTALL 1 5/8" x 1 5/8" STAINLESS STEEL UNISTRUT 2 1/2" IN LENGTH TO THE ANTEENNA TOWER AT THE PREPARED ANTENNA TOWER HORIZONTAL ANGLE MARK 95535. THE 3 EACH 4" O CONDUITS ARE THEN FASTENED TO THE TOWER WITH 1/2" DIA. STAINLESS STEEL UNISTRUT 2 1/2" IN LENGTH. UNISTRUT SHALL BE STAINLESS STEEL. INSTALL 1/2 EACH 7/8" HELIX, ANDREW P/N LDF5, WITH 4 EACH IN EACH 4" PVC CONDUITS.
 8. THE BOTTOM JUNCTION BOXES FOR #20 GROUND WIRE THROUGH 1 1/4" O PVC INTO EACH OF THE BOTTOM JUNCTION BOXES FROM #20 GROUND WIRE THROUGH 1 1/4" O PVC GROUNDING BY OTHERS. LEAVE THREE FEET OF WIRE COILED IN EACH BOX.

[illegible]